



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Silver Spring, MD 20910

FINDING OF NO SIGNIFICANT IMPACT
FOR THE PROPOSED ISSUANCE OF AN INCIDENTAL HARASSMENT AUTHORIZATION
TO LAMONT-DOHERTY EARTH OBSERVATORY TO TAKE MARINE MAMMALS INCIDENTAL
TO CONDUCTING A MARINE GEOPHYSICAL SURVEY
OVER THE MID-ATLANTIC RIDGE IN THE SOUTH ATLANTIC OCEAN, JANUARY – MARCH, 2016

NATIONAL MARINE FISHERIES SERVICE

BACKGROUND

On October 30, 2015, Lamont-Doherty Earth Observatory of Columbia University (Lamont-Doherty) submitted an application to the National Oceanic and Atmospheric Administration (NOAA) requesting an Incidental Harassment Authorization (Authorization) for the possible Level B harassment of 38 species of marine mammals and possible Level A harassment of 16 species of marine mammals incidental to conducting a marine geophysical (seismic) survey over the Mid-Atlantic Ridge in the South Atlantic Ocean, for a period of three months starting in January 2016.

In response to Lamont-Doherty's request, the National Marine Fisheries Service (NMFS) proposes to issue an Authorization, which would be valid from January 4, 2016 through March 31, 2016. Acoustic stimuli associated with the seismic surveys have the potential to cause marine mammals in the vicinity of the project area to be behaviorally disturbed, and therefore, the survey activities warrant an authorization under section 101(a)(5)(D) of the Marine Mammal Protection Act of 1972, as amended (MMPA; 16 U.S.C. §§ 1631 *et seq.*) and the regulations governing the taking and importing of marine mammals (50 Code of Federal Regulations (CFR) Part 216). NMFS' issuance criteria for incidental take authorizations require that the taking of marine mammals authorized by an Authorization will have a negligible impact on the species or stock(s), and, where relevant, will not have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses. In addition, the Authorization must set forth, where applicable, the permissible methods of taking, other means of effecting the least practicable adverse impact on the species or stock and its habitat, and requirements pertaining to the monitoring and reporting of such takings.

In accordance with the National Environmental Policy Act of 1969 (NEPA; 42 U.S.C. §§ 4321 *et seq.*), the Council on Environmental Quality (CEQ) regulations (40 CFR §§ 1500-1508) and NOAA Administrative Order (NAO) 216-6 "Environmental Review Procedures for Implementing the National Environmental Policy Act," NMFS has prepared this Final Environmental Assessment (EA) titled, *Proposed Issuance of an Incidental Harassment Authorization to Lamont-Doherty Earth Observatory to Take Marine Mammals by Harassment Incidental to a Marine Geophysical Survey over the Mid-Atlantic Ridge in the South Atlantic Ocean, January – March, 2016*. NMFS proposes to issue the IHA with mitigation measures, as described in Alternative 1 of the Final EA.

The EA addresses the potential environmental impacts of the proposed action and alternatives for the issuance of an Authorization and incorporates, by reference, all relevant analyses of Lamont-Doherty's proposed action within the following documents:



- NMFS' notice of the proposed Authorization in the *Federal Register* (80 FR 75355, December 1, 2015);
- *Request by Lamont-Doherty Earth Observatory for an Incidental Harassment Authorization to Allow the Incidental Take of Marine Mammals during a Marine Geophysical Survey by the R/V Marcus G. Langseth in the South Atlantic Ocean, Austral Summer 2016* (LGL, 2015).
- *Draft Environmental Analysis of a Marine Geophysical Survey by the R/V Marcus G. Langseth in the South Atlantic Ocean, January – March, 2016* (NSF, 2015).
- *Programmatic Environmental Impact Statement/Overseas Environmental Impact Statement for Marine Seismic Research Funded by the National Science Foundation or Conducted by the U.S. Geological Survey* (NSF/USGS, 2011); and
- *Record of Decision for Marine Seismic Research Funded by the National Science Foundation. June, 2012* (NSF, 2012).

The EA addresses the potential environmental impacts of two alternatives to meet NMFS purpose and need under section 101(a)(5)(D) of the MMPA:

- Issue the proposed IHA to Lamont-Doherty for take, by harassment, of marine mammals during the seismic survey, taking into account the prescribed means of take, mitigation measures, and monitoring requirements
- Do not issue the proposed Authorization to Lamont-Doherty, in which case, the proposed survey activities would not proceed.

ANALYSIS

NAO 216-6 contains criteria for determining the significance of the impacts of a proposed action. In addition, the Council on Environmental Quality (CEQ) regulations at 40 C.F.R. § 1508.27 state that the significance of an action should be analyzed both in terms of “context” and “intensity.” Each criterion listed is relevant to making a finding of no significant impact and has been considered individually, as well as in combination with the others. The significance of this action is analyzed based on the NAO 216-6 criteria and CEQ’s context and intensity criteria. These include:

1) Can the proposed action reasonably be expected to cause substantial damage to the ocean and coastal habitats and/or essential fish habitat as defined under the Magnuson-Stevens Act and identified in Fishery Management Plans (FMP)?

Response: Our proposed action of issuing an Authorization for the take of marine mammals incidental to the conduct of a seismic survey is not expected to cause damage to the ocean and coastal habitats and/or essential fish habitat. The mitigation and monitoring measures required by the Authorization would not affect ocean and coastal habitats. There is no Essential Fish Habitat as defined under the Magnuson-Stevens Act in the proposed action area.

Effects on ocean and coastal habitats by Lamont-Doherty’s proposed survey and the proposed issuance of the Authorization assessed here would be temporary and minor. The main effect would be short-term disturbance that might lead to temporary and localized relocation of the marine species or their food.

- 2) **Can the proposed action be expected to have a substantial impact on biodiversity and/or ecosystem function within the affected area (e.g., benthic productivity, predator-prey relationships, etc.)?**

Response: We do not expect our action to have a substantial impact on biodiversity or ecosystem function within the affected environment. Our proposed action of authorizing incidental harassment for Lamont-Doherty's seismic survey would be limited to temporary behavioral responses (such as brief masking of natural sounds) and temporary changes in animal distribution. These effects would be short-term and localized.

- 3) **Can the proposed action reasonably be expected to have a substantial adverse impact on public health or safety?**

Response: The proposed survey activities would occur over the Mid-Atlantic Ridge in the South Atlantic Ocean. We do not expect our proposed action of issuance of an Authorization to Lamont-Doherty to have a substantial adverse impact on public health or safety as the taking, by harassment, of marine mammals would pose no risk to humans.

- 4) **Can the proposed action reasonably be expected to adversely affect endangered or threatened species, their critical habitat, marine mammals, or other non-target species?**

Response: We have determined that our issuance of an Authorization would likely result in limited adverse effects to 38 species of marine mammals. The EA evaluates the affected environment and potential effects of our proposed action, indicating that Lamont-Doherty's seismic survey has the potential to affect marine mammals in a way that requires authorization under the MMPA. The activities and required mitigation measures would not affect physical habitat features, such as substrates and water quality.

We have determined that the proposed activities may result in some harassment (in the form of short-term and localized changes in behavior and displacement) of small numbers, relative to the population sizes, of 38 species of marine mammals. The impacts of the seismic survey on marine mammals relate to acoustic activities, and we expect these to be temporary in nature and not result in a substantial impact to marine mammals or to their role in the ecosystem.

The proposed seismic survey may have the potential to adversely affect the following species listed as threatened or endangered marine mammals under the Endangered Species Act of 1973 (ESA; 16 U.S.C. 1531 *et seq.*): blue, fin, humpback, sei, Southern right, and sperm whales. A January 2016 Biological Opinion issued under the ESA concluded that Lamont-Doherty's project was not likely to jeopardize the continued existence of any listed species and would not affect critical habitat.

To reduce the potential for disturbance from the activities, Lamont-Doherty would implement several monitoring and mitigation measures for marine mammals, which are outlined in the EA. Taking these measures into consideration, we expect that the responses of marine mammals from the Preferred Alternative would be limited to temporary displacement from the area and/or short-term behavioral changes, falling within the MMPA definition of "Level A or Level B harassment." We do not anticipate that take by serious injury or mortality would occur, nor have

we authorized take by serious injury or mortality. NMFS' predicted estimates for Level A harassment take for some species are likely overestimates of the injury that will occur. NMFS expects that successful implementation of the required visual and acoustic mitigation measures would avoid Level A take in some instances. Also, NMFS expects that some individuals would avoid the source at levels expected to result in injury. We anticipate that any PTS incurred, would be in the form of only a small degree of permanent threshold shift and not total deafness. Thus, we expect that impacts would be at the lowest level practicable due to the incorporation of the proposed mitigation measures.

5) Are significant social or economic impacts interrelated with natural or physical environmental effects?

Response: We expect that the primary impacts to the natural and physical environment would be temporary in nature with no interrelated significant social or economic impacts. Issuance of an Authorization would not result in inequitable distributions of environmental burdens or access to environmental goods.

We have determined that issuance of the Authorization would not adversely affect low-income or a minority population—as our action only affects marine mammals. Further, there would be no impact of the activity on the availability of the species or stocks of marine mammals for subsistence uses, as there are no such uses of marine mammals in the proposed action area. Therefore, we expect that no significant social or economic effects would result from our issuance of an Authorization or Lamont-Doherty's proposed seismic survey.

6) Are the effects on the quality of the human environment likely to be highly controversial?

Response: Although there is some lack of agreement within the scientific and stakeholder communities about the potential effects of noise on marine mammals, there is not a substantial dispute about the size, nature, or effect of our proposed action. For several years, we have assessed and authorized incidental take for multiple geophysical surveys conducted within the same year and have developed relatively standard mitigation and monitoring measures, all of which have been vetted during past public comment periods. The scope of this action is no different than past geophysical surveys, is not unusually large or substantial, and would include the same or similar mitigation and monitoring measures required in past surveys. Previous projects of this type required marine mammal monitoring and monitoring reports, which we have reviewed to ensure that the authorized activities have a negligible impact on marine mammals.

NMFS received comments from the Marine Mammal Commission and we fully considered all their comments in preparing the proposed Authorization and the EA. We have determined, based on the best available scientific literature, the limited duration of the project, and the low-level effects to marine mammals, that our proposed Authorization would have a negligible impact on the affected species or stocks of marine mammals.

7) Can the proposed action reasonably be expected to result in substantial impacts to unique areas, such as historic or cultural resources, park land, prime farmlands, wetlands, wild and scenic rivers, essential fish habitat, or ecologically critical areas?

Response: The issuance of an Authorization for the take of marine mammals incidental to the conduct of a seismic survey would not result in substantial impacts to the survey area. There are no unique areas, such as historic or cultural resources, park land, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas that could potentially be affected by our proposed action. The impacts to ocean habitat from Lamont-Doherty's action would likely be minor adverse effects but would be localized and short-term in nature. (See responses to questions 1 and 2.)

8) Are the effects on the human environment likely to be highly uncertain or involve unique or unknown risks?

Response: The potential risks associated with research seismic surveys are neither unique nor unknown nor is there significant uncertainty about impacts. We have issued Authorizations for similar activities or activities with similar types of marine mammal harassment in the Atlantic, Pacific, and Southern Oceans, and the Mediterranean Sea and conducted NEPA analysis on those projects. Therefore, we expect any potential effects from the issuance of our Authorization to be similar to prior activities which are not likely to be highly uncertain or involve unique or unknown risks.

9) Is the proposed action related to other actions with individually insignificant, but cumulatively significant impacts?

Response: The EA and the documents it references analyzed the impacts of the issuance of an Authorization for the take of marine mammals incidental to the conduct of a seismic survey in light of other human activities within the study area. We expect the following combination to result in no more than minor and short-term impacts to marine mammals in the survey area in terms of overall disturbance effects: (a) our issuance of an Authorization with prescribed mitigation and monitoring measures for the seismic survey; (b) past, present, and reasonably foreseeable future seismic surveys in the South Atlantic Ocean; and (c) climate change.

The proposed action of Lamont-Doherty conducting the survey over the Mid-Atlantic Ridge in the South Atlantic Ocean and our proposed action of issuing an Authorization to Lamont-Doherty for the incidental take of a small number of marine mammals are interrelated. The survey conducted pursuant to the requirements of an Authorization authorizing harassment of marine mammals is not expected to result in cumulatively significant impacts when considered in relation to other separate actions with individually insignificant effects.

We have issued incidental take authorizations for other research surveys that may have resulted in the harassment of marine mammals, but these research seismic surveys are dispersed both geographically (throughout the world) and temporally, are short-term in nature, and use mitigation and monitoring measures to minimize impacts to marine mammals and to minimize other potential adverse environmental impacts in the activity area.

We are unaware of any other research seismic surveys scheduled for the South Atlantic Ocean. Also, we are unaware of any synergistic impacts to marine resources associated with reasonably foreseeable future actions that may be planned or occur within the same region of influence. The Cumulative Effects section of the EA and the material incorporated by reference go into more detail regarding other past, present, and reasonably foreseeable future actions, but concludes that

the impacts of Lamont-Doherty's proposed survey over the Mid-Atlantic Ridge in the South Atlantic Ocean are expected to be no more than minor and short-term with no potential to contribute to cumulatively significant impacts.

- 10) Is the proposed action likely to adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources?**

Response: We have determined that the proposed action is not an undertaking with the potential to affect historic resources. The issuance of an Authorization for the take of marine mammals incidental to the conduct of a seismic survey would affect marine mammals and would not adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or cause loss or destruction of significant scientific, cultural or historical resources.

- 11) Can the proposed action reasonably be expected to result in the introduction or spread of a non-indigenous species?**

Response: Our proposed action does not have the potential to introduce or spread non-indigenous species because it does not encourage or require the *Langseth* to conduct long-range vessel transit that would lead to the introduction or spread of non-indigenous species. The *Langseth* complies with all international and U.S. national ballast water requirements to prevent the spread of a non-indigenous species.

- 12) Is the proposed action likely to establish a precedent for future actions with significant effects or does it represent a decision in principle about a future consideration?**

Response: Our action of issuing an Authorization for the take of marine mammals incidental to the conduct of a seismic survey would not set a precedent for future actions with significant effects or represent a decision in principle. Each MMPA authorization applied for under section 101(a)(5)(D) must contain information identified in our implementing regulations. We consider each activity specified in an application separately and, if we issue an Authorization, we must determine that the impacts from the specified activity would result in a negligible impact to the affected species or stocks, and, where relevant, will not have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses. Our issuance of an Authorization may inform the environmental review for future projects, but would not establish a precedent or represent a decision in principle about a future consideration.

- 13) Can the proposed action reasonably be expected to threaten a violation of any Federal, State, or local law or requirements imposed for the protection of the environment?**

Response: The issuance of an Authorization would not result in any violation of federal, state, or local laws for environmental protection. The applicant is required to obtain any additional federal, state, and local permits necessary to carry out the proposed activities.

- 14) Can the proposed action reasonably be expected to result in cumulative adverse effects that could have a substantial effect on the target species or non-target species?**

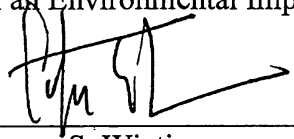
Response: The proposed action would not result in any significant cumulative adverse effects on target or non-target species incidentally taken by harassment due to seismic survey activities.

We have determined that marine mammals may exhibit behavioral changes such as avoidance of or changes in movement within the action area. However, we do not expect the authorized harassment to result in significant cumulative adverse effects on the affected species or stocks.

We have issued incidental take authorizations for other seismic research surveys (to Lamont-Doherty and other entities) that may have resulted in the harassment of marine mammals, but they are dispersed both geographically (throughout the world) and temporally, are short-term in nature, and all use mitigation and monitoring measures to minimize impacts to marine mammals. Because of the relatively short time that the project area would be ensonified (not more than 28 days), the action would not result in synergistic, or cumulative adverse effects that could have a substantial effect on any species.

DETERMINATION

In view of the information presented in this document and the analysis contained in the supporting Final EA prepared by NMFS, it is hereby determined that the issuance of an Authorization for the take, by harassment, of small numbers of marine mammals incidental to the conduct of seismic surveys in accordance with Alternative 1 (Preferred Alternative) will not significantly impact the quality of the human environment. In addition, we have addressed all beneficial and adverse impacts of the action to reach the conclusion of no significant impacts. Accordingly, the preparation of an Environmental Impact Statement for this action is not necessary.



Donna S. Wieting
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12/30/15
Date

